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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,207	01/31/2000	Robert E. Robotham	1400.4100242	4551
25697	7590	12/07/2004	EXAMINER	
ROSS D. SNYDER & ASSOCIATES, INC.			PHILPOTT, JUSTIN M	
115 WILD BASIN RD.			ART UNIT	
SUITE 107			PAPER NUMBER	
AUSTIN, TX 78746			2665	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/495,207	Applicant(s) <i>AK</i> ROBOTHAM, ROBERT E.	
	Examiner Justin M Philpott	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 12, 2004 has been entered.

Response to Arguments

2. Applicant's arguments filed October 12, 2004 have been fully considered but they are not persuasive.

Specifically, with respect to currently pending claims 1-24, applicant only states, "Applicant reiterates Applicant's previously presented arguments" (page 10). (The remainder of applicant's remarks on page 10 are directed to a new set of claims, 25-33, which are addressed in the following action). However, as discussed in the previous final office action of April 5, 2004, the cited art clearly teaches each limitation of applicant's claims 1-24. Furthermore, applicant has not amended any of claims 1-24. Thus, applicant has neither provided any new arguments in response to the rejection of claims 1-24 nor introduced any new limitations to claims 1-24. Accordingly, claims 1-24 are rejected in the following action for the same reasons discussed in the previous final office action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,148,001 to Soirinsuo et al. in view of U.S. Patent No. 6,026,090 to Benson et al.

Regarding claims 1, 10, 17 and 25, Soirinsuo teaches a method for merging a plurality of virtual connections (e.g., VCC_1 - VCC_n in FIG. 4) to form a merged virtual connection (e.g., 450), comprising: buffering cells of each of the plurality of virtual connections into a corresponding one of a plurality of cell buffers (e.g., see col. 10, lines 58-60), wherein each of the plurality of virtual connections is identified by a virtual connection identifier (e.g., VCI 712 in FIG. 7); queuing the identity of a virtual connection when cells that constitute a complete packet are buffered in a cell buffer (e.g., via switch controller comprising state machine 1130, see col. 10, lines 16-18); obtaining prioritization information for the merged virtual connection (e.g., service classes, see col. 7, lines 37-50; and payload type PT, see col. 9, lines 7-32); and generating a cell stream for the merged virtual connection based on the prioritization information and virtual connection identities, wherein the merged virtual connection is identified by a merged virtual connection identifier (e.g., see VPI/VCI Translation 934 in FIG. 9), wherein each cell in the cell stream includes the merged virtual connection identifier. While Soirinsuo may not specifically disclose queuing the identity (e.g., VCI) in a specific queue configuration, Soirinsuo teaches the step of scheduling virtual connections in accordance with the completion of buffered packets

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(e.g., see col. 9, lines 15-16) via a switch controller (e.g., see col. 10, lines 16-29). Furthermore, Soirinsuo discloses that those skilled in the art will recognize that other methods of obtaining the state of the received cells may be used without departing from the scope of the invention (col. 10, lines 18-21).

Benson also teaches a method for receiving cells, and further, specifically teaches queuing an identifier in a queue (e.g., in the form of complete pointer 128) when cells that constitute a complete queue are buffered in a corresponding cell buffer (e.g., complete queue 124, see col. 4, line 40 – col. 6, line 50 with reference to FIG. 2). Benson further teaches that it is well known in the art to also identify when cells that constitute a complete packet are buffered (e.g., see col. 2, lines 58-67), when suitable memory is available. Further, regarding claim 25, Benson teaches dequeuing of cells is performed in intervals, where different classes receive priority for different ones of the intervals (e.g., see col. 9, line 33 – col. 10, line 65 wherein dequeuing is in accordance with a particular a rate, and different connections receive a particular predefined priority which corresponds to the rate). The teachings of Benson provide improvements in ATM communication such as reduced memory requirements and lower latency (e.g., see col. 2, lines 66-67). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Benson to the method of Soirinsuo in order to reduce memory requirements and reduce latency in ATM communications.

Regarding claims 2, 14, 18 and 26, Soirinsuo teaches dequeuing cells from the plurality of buffers to produce the cell stream, wherein dequeuing of the cells is based on the prioritization information (e.g., see col. 9, line 33 – col. 10, line 65).

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Regarding claims 3, 11, 13, 19 and 27, Soirinsuo teaches each virtual connection comprises prioritization information which includes class prioritization information (e.g., service classes, see col. 7, lines 37-50; and payload type PT, see col. 9, lines 7-32).

Regarding claims 4, 12, 20 and 28, as discussed above regarding claims 1, 10 and 17, Benson teaches the plurality of queues is a linked list configuration (e.g., see col. 5, lines 5-15 and FIG. 2 regarding pointer 128). Also, as discussed above, the teachings of Benson provide improvements in ATM communication such as reduced memory requirements and lower latency (e.g., see col. 2, lines 66-67). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Benson to the method of Soirinsuo in order to reduce memory requirements and reduce latency in ATM communications.

Regarding claims 5, 21 and 29, Soirinsuo teaches the prioritization information allocates available bandwidth on the merged virtual connection based on class by teaching the prioritization information comprises service classes in accordance with various bit rate type requirements (e.g., CBR, VBR, see col. 7, lines 37-50).

Regarding claims 6, 22 and 30, Soirinsuo teaches prioritization information further comprises referencing a prioritization table (e.g., scheduler supporting priorities, see col. 10, lines 22-42) that stores an accessing sequence (e.g., buffer state list or weighted scheduling) for the plurality of queues.

Regarding claims 7, 23 and 31, Soirinsuo teaches generating the cell stream such that cells corresponding to different packets that are combined to produce the merged virtual connection are not intermingled (e.g., see col. 10, lines 29-35).

Regarding claims 8, 24 and 32, Soirinsuo teaches detecting an end of message indication that indicated a final cell for the complete packet (e.g., see col. 9, lines 7-8).

Regarding claims 9 and 33, as discussed above regarding claim 1, Soirinsuo teaches generating a cell stream by combining the cell stream of a first virtual connection (e.g., VCC₁) with a cell stream of at least a second virtual connection (e.g., VCC₂), wherein the virtual connection identifier corresponding to the second virtual connection is different than the first virtual connection identifier. While Soirinsuo may not specifically disclose that, e.g., a first virtual connection (e.g., VCC₁) comprises a merged virtual connection and that the merged virtual connection is further merged with a second virtual connection, Soirinsuo teaches the method of providing a merged virtual connection (e.g., 450 VCC_{1-n}) comprising a plurality of virtual connections. At the time of the invention it would have been obvious to one of ordinary skill in the art to utilize a first virtual connection (e.g., VCC₁) comprising a merged virtual connection such as the merged virtual connection taught by Soirinsuo (e.g., 450 VCC_{1-n}) in order to accommodate additional virtual connections.

Regarding claims 15 and 16, Soirinsuo teaches the virtual connection merging system is included in a portion of a communication switch (e.g., see col. 10, lines 35-42). While Soirinsuo may not specifically disclose the location of the virtual connection merging system is limited to specifically either the ingress portion or egress portion of the communication switch, these claims were rejected in the previous office action by the Examiner taking official notice that the limitations recited in these claims are well known in the art; that is, it is well known in the art for a virtual connection merging system to be located in the ingress or egress portion of a communication switch. In Applicant's response to the previous office action, Applicant has not

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traversed the Examiner's assertion of official notice or Applicant's traverse is not adequate. Therefore, in accordance with MPEP 2144.03(C), the limitations recited in these claims comprise well-known art and are hereafter taken to be admitted prior art. Accordingly, the teachings of Soirinsuo are clearly applicable for ingress and/or egress portions of a communication switch. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to locate the system of Soirinsuo in the ingress or egress portion of the communication switch as is well known in the art.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin M Philpott



ALPUS H. HSU
PRIMARY EXAMINER